

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITYTo:
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PCT

WRITTEN OPINION

(PCT Rule 66)

Applicant's or agent's file reference 60285-PCT2		Date of Mailing (day/month/year) 14 MAY 2004
International application No. PCT/US03/20107		REPLY DUE within 2 months/days from the above date of mailing
International filing date (day/month/year) 25 June 2003 (25.06.2003)	Priority date (day/month/year) 26 June 2002 (26.06.2002)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): C02F 1/72 and US Cl.: 210/759, 763, 766, 908; 405/128.75		
Applicant FMC CORPORATION		

- This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.
- This opinion contains indications relating to the following items:

- ☒ Basis of the opinion
- ☐ Priority
- ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Lack of unity of invention
- ☒ Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Certain documents cited
- ☐ Certain defects in the international application
- ☐ Certain observations on the international application

- The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

- The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 26 October 2004 (26.10.2004)

Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Frank M. Lawrence <i>Henry J. Lawrence</i> Telephone No. 571-272-0987
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I. Basis of the opinion

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
 pages 1-14, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the claims:
 pages 15-17, as originally filed
 pages NONE, as amended (together with any statement) under Article 19
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☒ the drawings:
 pages 1-5, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages NONE, as originally filed
 pages NONE, filed with the demand
 pages NONE, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
 These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE _____
- ☐ the claims, Nos. NONE _____
- ☐ the drawings, sheets/fig NONE _____

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

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V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)

Claims 8-12, 22-26

YES

Claims 1-7, 13-21, 27-31

NO

Inventive Step (IS)

Claims NONE

YES

Claims 1-31

NO

Industrial Applicability (IA)

Claims 1-31

YES

Claims NONE

NO

2. CITATIONS AND EXPLANATIONS

Claims 1-7, 13-21, 27 and 29-31 lack novelty under PCT Article 33(2) as being anticipated by US 5,700,107 A (NEWTON). NEWTON teaches a process for soil remediation comprising adding an acid and a complexing agent that includes a chelating agent, a salt of iron, and a persulfate such as one of the sodium salts of persulfate to remove pesticides and other contaminants at a temperature of at least 35°C and with a di- or tri-valent catalytically active metal oxide (abstract, sol. 1, lines 52-67, col. 2, lines 24-49, col. 4, lines 1-16, col. 5, lines 41-50, col. 7, lines 8-10).

Claims 1-3, 16, 17 and 27-30 lack novelty under PCT Article 33(2) as being anticipated by US 5,741,427 A (WATTS et al). WATTS et al teach a method for the remediation of soil or groundwater comprising adding an acid-stabilized peroxide and a Fe(II) EDTA chelate or Fe(III) salt catalyst to remove pesticides and other contaminants (see abstract, col. 3, line 30-46 to col. , line 51, claims 1, 3).

Claims 8-12 and 22-26 lack an inventive step under PCT Article 33(3) as being obvious over NEWTON. NEWTON discloses all of the limitations of the claims except that the peroxygen compound is a combination of di- and monopersulfate, and that sodium carbonate or bicarbonate is added in a preferred amount as a pH modifier. It is submitted that one having ordinary skill in the art would know to use any available combination of persulfates that are known in the art to be capable of oxidizing contaminants in soil based on the teaching of persulfates of sodium in the patent, and to use any well known agent for pH adjustment at preferred levels that will achieve a desired level of decontamination based on the nature of the contaminants, process conditions, and cost and availability of the agents.

Claims 1-31 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

----- NEW CITATIONS -----

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Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.